Can The Components of The Fraud Hexagon Detect Fraudulent Financial Reporting?

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Abstract: Accounting information in financial statements is very important for users of financial statements when deciding. Management tries to make these financial statements perform well. Opportunistically, managers can manipulate financial statements to make them look good, which encourages companies to commit fraud on financial statements. This study uses the Fraud Hexagon component to examine the factors that influence financial statement fraud. Fraud hexagon theory is the latest six-dimensional fraud component developed by Vousinas by adding aspects of collusion. Sample selection is based on the purposive sampling method. The analysis method used in this research is panel data logistic regression analysis through the Eviews 10 application. The results showed that opportunity, rationalization, and capability did not affect financial statement fraud. The other three components of the fraud hexagon, namely pressure, arrogance, and conspiracy, significantly affect financial statement fraud.

Keywords: Fraud Hexagon, Financial Statement Fraud, Logistic Regression, Eviews.

JEL Classification Code: M41, K42, G34

1. Introduction

The development of a country’s economy can be based on investor confidence. (Azizah, 2017), (Putri et al., 2023). Financial reports communicate companies with external parties to inform investors and creditors about the company’s financial performance and condition during a certain period. For accounting information to be relevant, it must be able to make different decisions, so that the financial information must be predictive value, confirmatory value, and materiality. For accounting information to be appropriately represented, the financial information must be useful for decision-making. (Al Islami et al., 2023), (Prasetyo et al., 2021), (Damayanti et al., 2021), (Azizah, Fredy, et al., 2023b). One of the qualitative characteristics of financial reporting is error-free, meaning that the financial information presented must be accurate. Therefore, in the process of making financial statements, they must be made correctly and presented honestly to users. (Calhyo et al., 2022), (Azizah, Fredy, et al., 2023a), (Ambarwati et al., 2024), (Azizah, Rizal, et al., 2023), (Azizah, Fredy, et al., 2023b), (Azizah & Nurjaman, 2023).

However, to attract investors, many companies manipulate financial reports to make them look good, encouraging companies to commit fraud on financial reports (Tumanggor, 2021), (Azizah et al., 2017). In addition, research by Azizah (2017) revealed that managers in Indonesia tend to behave opportunistically. Financial reports provide a very easy gap for company management to commit fraud if they cannot achieve the expected goals (Azizah et al., 2019), (Azizah et al., 2019), (Majid et al., 2020), (Azizah, Zoebaedi, et al., 2020), (Azizah, Fantasyam, et al., 2020), (Romantis et al., 2020), (Azizah, 2021), (Azizah et al., 2021), (Muhyidin et al., 2021), (Azizah, Fredy, & Zoebaedi, 2022), (Natanael et al., 2021), (Azizah, 2022).

Based on agency theory, management as an agent is given the power to organize and make decisions that are best for the interests of the owner and the company. Agent responsibility is implied in the company’s financial statements and managerial reports. The importance of the information in these reports encourages managers to improve company performance to satisfy several parties, especially the principal. With the urge to cheat due to adverse selection or moral hazard, sometimes management is
willing to commit fraud so that the information in the financial statements looks good and can help agents fulfill their interests. (Azizah, 2017a).

The fraud committed by the company to manipulate financial statements is called fraud. When financial reports are presented dishonestly and mislead users of financial statements in decision-making, this causes financial reports that are indicated to have committed fraud to be no longer reliable (Damayani et al., 2019). The ACFE Indonesia survey 2019 results from 239 respondents show that the most common fraud case in Indonesia is corruption, with a percentage of 64.4%, followed by misuse of state and company assets or wealth, with 28.9%. The last is a case of financial statement fraud of 6.7% (ACFE, 2018). The results of ACFE Global research in 2018 state that an average of 5% of organizational revenue falls victim to fraudulent financial reporting every year. This proves that many companies still try to manipulate their company’s financial statement data (Ayuningrum et al., 2021).

The number of cases of financial statement fraud that occur is one of the auditors’ responsibilities in detecting fraud so that the company’s financial statements can be trusted, and the company’s value remains good for users of financial statements. (Oktrivina & Azizah, 2022), (Azizah, Fredy, & Wahyoeni, 2022). One of the theories that can be used to detect fraud is the theory developed by various previous researchers (Azizah, Murni et al., 2022). Starting from the fraud triangle theory (Cressey, 1953), which was then refined with additional factors in the form of capability, it later became the fraud diamond theory. The fraud diamond theory was coined by Wolfe and Hermason in 2004. The fraud triangle, fraud diamond and fraud pentagon theories were further developed into a fraud hexagon by Vousinas in 2019, called S.C.C.O.R.E, adding a collection component. S.C.C.O.R.E stands for stimulus or pressure, capability, collusion, opportunity, rationalization, ego or arrogance (Vousinas, 2019).

Management often gets pressure to show that the company has managed assets well so its profits are high and will later generate high returns for investors. Unstable company conditions will cause pressure on management due to a decrease in company performance and hinder the flow and investment in the coming year. For this reason, management utilizes financial statements to cover up poor financial stability conditions by manipulating financial statements.

Opportunity to commit fraudulent financial statements occurs if there is ineffective monitoring, which is a situation where supervisory activities monitoring the company's performance run ineffectively carried out by the independent board of commissioners so that the possibility of fraudulent financial statements arises. The higher the proportion of independent commissioners, the lower the possibility of fraudulent financial statements. The independence possessed by the independent board of commissioners will improve supervisory control over management performance, and no cooperation is possible.

Rationalization is a situation where a person justifies his actions or mistakes. Companies need qualified auditors to audit the fairness of financial statements. Auditor quality is the ability of the auditor to predict, find and report the results of the auditing process that has been carried out. Whether or not the audit quality determines the ability of an auditor to detect financial statement fraud and report the audit results. The big four KAPs have advantages in terms of professional staff and tend to provide effective audit services. So, it can be concluded that the big four KAP is believed to be able to conduct higher quality audits than the nonbig four KAP. The audit capability possessed by the big four KAP is believed to be better than that of the non big four KAP, so it is better able to detect fraud in the company and produce higher audit quality. In auditing its financial statements, KAP Big Four can detect fraudulent financial statements more easily. This is because the audit quality provided by the big four KAP can better detect fraud. However, if the company uses audit services from a nonbig four KAP, the possibility of fraudulent financial statements in the company is higher.

Capability is a person’s ability to override internal controls, develop concealment strategies, and control social situations to their advantage by selling them to others. The Chief Executive Officer (CEO) is the top leader of a company. An educated person will be more rational in thinking and acting and understand the duties and responsibilities assigned to him so that he can properly carry out these duties and responsibilities. In making ethical decisions, a competent person usually has a high moral personality and has the ability. CEOs with a master’s education background or above have the potential
to commit fraud. This may happen because the higher a person’s ability and education, the easier it is for him to manipulate financial statements with his knowledge.

Arrogance is an attitude of superiority over rights, and he feels that internal controls or company policies do not apply to him. Arrogance is a selfish, arrogant, and overconfident attitude that he can commit undetected fraud. Chief Executive Officers (CEOs) with an arrogant attitude tend to want to show everyone their status and position in the company. They do not want to lose that status or position (or feel disrespected). CEOs may also do whatever it takes to maintain their position and standing. The number of CEO photos is a factor that supports arrogance; the CEO feels that the company’s internal controls do not apply to him because of his position and position. Arrogance arises because a person has an important role in a company and has the right to determine the direction of the company’s movement.

Collusion is a deviant act committed by two or more people who work together to achieve their goals, which only benefits them. These parties’ agreements usually involve giving several assets such as money, property, or other facilities to expedite their affairs. Collusion, of course, also violates the law because it does everything possible to gain personal benefits. This causes a higher risk of fraud when there is collusion. So, the higher the level of collusion, the more likely fraud may occur.

Research on the factors that influence financial statement fraud committed by public companies in Indonesia has been conducted by several previous researchers and shows different results (Sari & Nugroho, 2020), (Agusputri & Sofie, 2019), (Azizah et al., 2024)(Akbar, 2017), (Annisa & Ghozali, 2020), (Aprilia (1027), (Damayani et al., 2019), (Faradiza, 2019), (Imtikhani & Sukirman, 2021). This study applies the latest fraud theory, namely the fraud hexagon theory, to examine its effect on financial statement fraud. Fraud hexagon theory is expected to detect deeper financial statement fraud with the addition of a collusion component.

2. Research Method and Materials

The design of this study is explanatory research where the research report examines the effect of the fraud hexagon component on financial statement fraud in manufacturing companies in the consumer goods sector listed on the Indonesia Stock Exchange for the 2019-2020 period. The population of this study is manufacturing companies in the consumer goods industry sector listed on the Indonesia Stock Exchange (IDX) and present complete company annual reports from 2019 to 2020. This study uses several company samples which are determined based on certain criteria as follows: 1) Manufacturing companies in the consumer goods industry sector that are listed consecutively on the Indonesia Stock Exchange (IDX) for the 2019-2020 period; 2) Manufacturing companies in the consumer goods industry sector that did not publish a complete audited annual report during the study year (2019-2020); 3) Manufacturing companies in the consumer goods industry sector that do not publish financial reports in rupiah currency. The dependent variable for this study is financial statement fraud as measured by the Beneish Model (M-score) (Beneish, 1999). The formula for obtaining the Beneish M-Score is:

Beneish M-Score = -4.84 + 0.92DSRI + 0.528GMI + 0.404AQI + 0.892SGI + 0.115DEPI - 0.172SGAI + 4.679TATA - 0.327LVGI

Description:
DSRI = Day’s Sales in Receivable Index
GMI = Gross Margin Index
AQI = Asset Quality Index
SGI = Sales Growth Index
DEPI = Depreciation Index
SGAI = Sales, General and Administrative Expenses Index
TATA = Total Accruals to Total Assets
LVGI = Leverage Index
If the score obtained is above -2.22 (> -2.22), the company is said to have indicated a tendency to manipulate or manipulate. Meanwhile, suppose the result obtained by the company is smaller than -2.22 (< -2.22). In that case, it can be said that the company is not indicated to manipulate or is in the group of non-manipulator companies (Santosa & Ginting, 2019). The independent variables of this study are components of the fraud hexagon; the measurement of independent variables is presented in Table 1 below:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Proxy</th>
<th>Definition of Operationalization</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure</td>
<td>Financial Stability</td>
<td>A state that describes the financial condition of the company.</td>
<td>= Total assets,t - Total assets,t-1 / Total assets,t-1</td>
</tr>
<tr>
<td>Opportunity</td>
<td>Ineffective Monitoring</td>
<td>Ineffective state of supervision in performance monitoring Company</td>
<td>Number of independent commissioners / Total board of commissioners</td>
</tr>
<tr>
<td>Rationalization</td>
<td>External auditor quality</td>
<td>External auditor capability in detecting fraud.</td>
<td>Code 1, if the company uses the audit services of KAP Big Four; Code 0, if the company does not use the audit services of KAP Big Four</td>
</tr>
<tr>
<td>Capability</td>
<td>Education CEO</td>
<td>Competencies possessed by the CEO that can influence decision-making.</td>
<td>Code 1, if the CEO has a master's degree or above; Code 0, if the CEO has no background Master’s degree or above.</td>
</tr>
<tr>
<td>Arrogance</td>
<td>CEO Photo</td>
<td>Number of CEO photos in the annual report Company</td>
<td>Frequency of CEO pictures in annual reports during the study period</td>
</tr>
<tr>
<td>Collusion</td>
<td>Cooperation with the government</td>
<td>Companies that are affiliated with the government.</td>
<td>Code 1, if the company cooperated with the government during the study period; Code 0, if the company does not cooperate with the government during the study period</td>
</tr>
</tbody>
</table>

This study uses logistic regression analysis testing. This technique is used because the dependent variable in this study is a dummy variable. The logistic regression equation for this research is:

\[
\text{FFS}_{\text{Ln1}} = \text{FFS} = a + \beta_1 \text{FNST} + \beta_2 \text{INMO} + \beta_3 \text{KAP} + \beta_4 \text{CAPA} + \beta_5 \text{ARRO} + \beta_6 \text{COL} + \epsilon
\]

Description:
\[
\text{Ln FFS}/(1-\text{FFS}) = \text{Natural logarithm of Fraudulent Financial Statement (FFS) (dummy variable, one if there is an indication of financial statement fraud, 0 if there is no indication of financial statement fraud)}
\]
\[
\beta_1-\beta_6 = \text{Variable regression coefficient},
\]
\[
a = \text{Constant}
\]
\[
\text{FNST} = \text{Financial Stability}
\]
\[
\text{INMO} = \text{Ineffective Monitoring}
\]
\[
\text{KAP} = \text{External Auditor Quality}
\]
\[
\text{CAPA} = \text{Capability}
\]
\[
\text{ARRO} = \text{Arrogance}
\]
\[
\text{COL} = \text{Collusion}
\]
\[
\epsilon = \text{Error}
\]
3. Results and Discussion

 Manufacturing companies in the consumer goods industry sector on the IDX in 2019-2020 amounted to 57 companies; 54 companies in the consumer goods industry sector published complete annual reports during the study year (2019-2020) and presented financial reports in rupiah currency. Thus, the sampled manufacturing companies in the consumer goods industry sector were 54 companies with an observation period of 2 years, so the number of research samples was 108. The chi-square profitability test result from Hosmer and Lemeshow's Goodness of Fit Test is $0.5789 > 0.05$; this means that the regression model is suitable for use in further analysis, and the model can predict its observation value. The McFadden R-squared value is $0.133639$, where these results explain that in this study, the independent variables can influence or have an influence on the dependent variable of $13.36\%$, and the difference of $86.63\%$ is influenced by other independent variables outside the study or influenced by other variables not included in the model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1.275635</td>
<td>0.1133</td>
</tr>
<tr>
<td>FNST</td>
<td>1.953227</td>
<td>0.0326</td>
</tr>
<tr>
<td>INMO</td>
<td>-1.408577</td>
<td>0.2113</td>
</tr>
<tr>
<td>KAP</td>
<td>-0.468687</td>
<td>0.3337</td>
</tr>
<tr>
<td>CAPA</td>
<td>-0.04114</td>
<td>0.9294</td>
</tr>
<tr>
<td>ARRO</td>
<td>0.632342</td>
<td>0.0206</td>
</tr>
<tr>
<td>KOL</td>
<td>1.147941</td>
<td>0.014</td>
</tr>
</tbody>
</table>

Based on the results of the logistic regression test in Table 2 above, it can be concluded that financial stability (FNST) as a proxy for pressure affects fraudulent financial reporting because the probability value is $0.0326$, which is below the value of $0.05$ (< 0.05). The results of this study support the hypothesis that financial stability affects fraudulent financial reporting. Agency theory explains the difference in interests between the principal and the agent. As the principal party, investors want a high return on their investment, while management, as the agent party, wants high compensation for their performance. This creates pressure for management to always display stable company performance, so investors do not reduce the flow of investment funds in the following year. The total assets the company owns are attractive to investors. The tendency of management to show high total assets makes management have the potential to make fraudulent financial statements. The results of this study are in line with the results of research by Aprilia (2017), Faradiza (2019), Imtikhani and Sukirman (2021), which state that the financial stability variable as measured by changes in total assets (CHANGE) has a significant effect on fraudulent financial statements.

Ineffective Monitoring (INMO) as a proxy for opportunity does not affect fraudulent financial reporting because the probability value is $0.2113$, which is above the value of $0.05$ (> 0.05). This reveals that ineffective monitoring does not influence fraudulent financial reporting. The results of this study do not support the proposed hypothesis that financial stability influences fraudulent financial reporting. The existence of an independent board of commissioners provides little objective assurance of the results of the financial statements because effective supervision comes from the performance of all components of the board of commissioners. This also shows that the number of independent commissioners who supervise management is not a matter of great concern; rather, the most important thing is the effectiveness of the performance of the board of commissioners in the company. The results of this study support the results of research by Damayani (2019) and Sari and Nugrohi (2020).

External Auditor Quality (KAP) as a proxy for rationalization does not affect fraudulent financial reporting because the probability value is $0.3337$, which is above the value of $0.05$ (> 0.05). This reveals that the quality of the external auditor does not influence fraudulent financial reporting. The results of this study also do not support the proposed hypothesis that the quality of external auditors influences fraudulent financial reporting. The expertise possessed by the Big Four Public Accounting Firm (KAP) is considered one of the reasons companies choose the Big Four KAP to increase the company's
credibility in the eyes of capital market players. In this study, it is known that 35 companies use the KAP Big Four.

CEO education (CAPA) as a proxy for capability does not affect fraudulent financial reporting because the probability value is 0.9294, which is above the value of 0.05 (> 0.05). This reveals that CEO education does not influence fraudulent financial reporting. The results of this study do not support the proposed hypothesis that CEO education has an effect on fraudulent financial reporting. This research shows that out of 109 units of analysis, 59 companies have CEOs or managing directors with a master’s education background or above. The results of this study support the results of research from Rusmana and Tanjung (2020) and Lestari and Henny (2019), which state that CEO education does not affect fraudulent financial statements.

A frequent Number of CEO’s Pictures (ARRO) as a proxy for arrogance affects fraudulent financial reporting because the probability value is 0.0206, which is below the value of 0.05 (<0.05). This reveals that the frequency of CEO photos influences fraudulent financial reporting. The results of this study support the proposed hypothesis that the greater frequency of photos is the probability that CEO photos affect fraudulent financial reporting. This proves that the greater frequency of photos of the president of the board of directors or Chief Executive Officer (CEO) displayed in the company’s annual report can indicate the CEO’s arrogance. A high level of arrogance can lead to an attitude of superiority and trigger fraud so that the company’s internal control does not apply to the CEO or president of the board of directors because of his status and position. This study’s results align with the results of research from Sari and Nugroho (2020).

Cooperation with the Government (COL) as a proxy for collusion affects fraudulent financial reporting because the probability value is 0.0140, which is below the value of 0.05 (<0.05). This reveals that cooperation with the government influences fraudulent financial reporting. This study’s results support the hypothesis that cooperation with the government affects fraudulent financial reporting. This study provides empirical evidence that the acquisition of cooperation with the government has led to company efforts to participate in this cooperation. In general, companies get large revenues and financial assistance from the government, so they try to show good company performance, conveyed through the company’s financial statements and annual reports. This shows that cooperation between companies and the government can indicate the occurrence of fraudulent practices. With a large nominal project, companies generally present financial reports with good performance to attract the government’s attention to cooperate and win tender selection. The results of this study support the fraud hexagon theory developed by Vousinas (2019). They align with the research results from Sari and Nugroho (2020), which show that the collusion variable proxied by cooperation with the government affects financial statement fraud.

4. Conclusion

The findings of this study reveal that three components of the fraud hexagon—pressure, arrogance, and conspiracy—significantly affect fraudulent financial reporting in manufacturing companies within the consumer goods industry sector listed on the Indonesia Stock Exchange (IDX) for the 2019-2020 period. Specifically, financial stability, as a proxy for pressure, indicates that higher total asset values reflecting the company’s good financial condition can exert pressure on management, increasing the likelihood of financial statement fraud. Similarly, arrogance, measured by the frequency of CEO photos in annual reports, shows that the prominence of CEO imagery can influence the propensity for fraudulent reporting. Additionally, collusion, as proxied by cooperation with the government, signifies that such alliances may lead to practices aimed at achieving greater profits through deceptive financial reporting.

The value of this research lies in its contribution to academic literature and practical applications within the field of financial fraud detection. By extending the fraud triangle theory into a hexagon model, this study provides a more comprehensive framework for understanding the dynamics of financial statement fraud. Arrogance and collusion are significant factors that enrich the existing body of knowledge and offer new dimensions for examining managerial behaviors and corporate governance issues. For practitioners, the findings underscore the importance of monitoring specific indicators, such
as financial stability metrics, the portrayal of executive leadership, and the nature of governmental collaborations, to mitigate the risks of fraudulent activities in financial reporting.

Despite its contributions, this study acknowledges certain limitations that present opportunities for future research. The sample size is limited to manufacturing companies in the consumer goods sector, suggesting that broader studies encompassing all manufacturing companies listed on the IDX and non-listed firms may yield more generalizable results. Additionally, future research should consider alternative proxies for the fraud hexagon components, such as financial targets, external pressures, political connections, changes in directors, and auditor rotations. Extending the research period beyond 2019-2020 could provide a more comprehensive view of fraudulent reporting practices. Finally, employing different measurement methods for detecting fraudulent financial statements, such as F-Score, Jones’ modified model, and Altman Z-score, may enhance the robustness and accuracy of the findings, leading to more nuanced insights into the mechanisms of financial statement fraud.

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